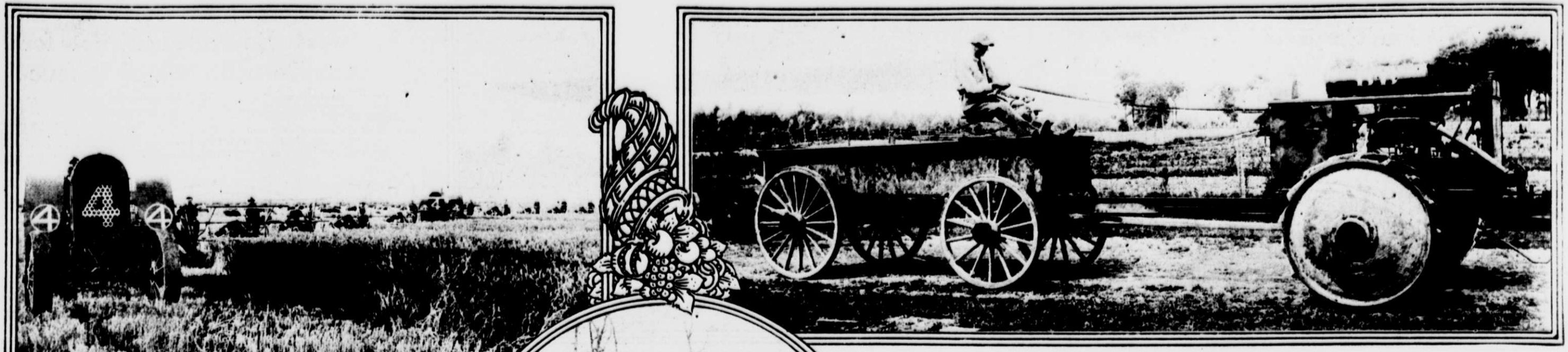


HOW GASOLENE METHODS MADE BILLIONS FOR FARMERS



Two thirty horse-power tractors, each pulling five harvesters.

Tractors Doing the Work of Innumerable Horses and Thousands of Men and Doing It Better—Gasolene-Electric Farming a Development of Recent Years

By CHARLES FREDERICK CARTER

IF the jingle of the telephone bell at his bedside had not given the correct pitch you probably would not have noticed that Farmer Timothy Hay flatted when he snored. However, it doesn't matter, because the snoring ceased as Mr. Hay rolled over and, reclining on one elbow, took down the receiver.

The call was from the station agent at Dismalburg who read to Squire Hay a telegram from the Chicago sales agent of the local farmers' association urging the immediate shipment of a carload of early peaches to take advantage of a strong market. The suggestion must have met with approval, for Mr. Hay ordered a car placed for loading.

Mr. Hay yawned as he hung up the receiver, then pulling a gold watch from beneath his pillow noted that it was a quarter to 7. If Farmer Hay had been given to such profitless reflections he might have remembered that his late father, whose slumbers were timed by an eighty-nine-cent alarm clock, would have had half a day's work done by that hour. The elder Hay, you see, chose to be born before the gasoline-electric era, an exhibition of bad taste for which he paid the penalty at hard labor for life, as was just and proper.

Without getting out of bed Mr. Hay reached for another phone, connected with his own private farm system, and inserted a plug in a hole labeled "Barn."

"That you, Pete? Don't send the tractors into the field today. We'll ship a carload of cholora morbus. Get the hands into the orchard on the stroke of 7 and stop lively or we'll miss that evening train. Watch how the peaches are running, and if we're not going to have enough to fill the car we'll let Pease ship a few crates. Yes, I know they haven't begun to turn yet, but city folks like their fruit nice and green. Besides, prices are higher than they'll be again this year."

With the leisurely movements that only the prosperous can afford Farmer Hay took his bath in a tiled bathroom with open plumbing and all the other newest frills. He was interrupted while shaving by a telephone call from his lawyer at Dismalburg, who told of a merchant who wanted to borrow some of the farmer's surplus cash. Mr. Hay finished his toilet by putting on a collar and tie.

Yes, I said "collar." It wasn't celluloid either. It was imported linen at \$4.50 a dozen. And don't forget that the tie cost more than a quarter. Also he wore a coat when he went down to breakfast at his own table, although it wasn't Sunday and no guests were expected. The air in the dining room was heavy with the fragrance of cut flowers on the table and sideboard. Also the room was bright and cheerful and handsomely furnished.

After quenching his thirst with a glass of water innocent of typhoid bacteria, since it was from an artesian well beyond the possibility of contamination and cooled by ice made at his own sanitary refrigerating plant, Farmer Hay ate a \$4 breakfast—measured by metropolitan prices, that is to say. It may be mentioned in passing that he did not eat with his knife. The conversation was about the approaching annual family trip to Europe, with parenthetical comments on the news in the daily paper just left at the door by the rural mail carrier.

Leaving details of the trip to be settled at some future conference, Farmer Hay sauntered out on his daily tour of inspection. The general utility man, who was washing down the concrete walls and floor of the cow stable with a hose, reported that the new power driven vacuum milker was working to perfection and producing a larger yield of milk than the herd of registered Jerseys had ever given before. It was the last word in sanitary milk production.

A garage the machinist was overhauling the fleet of motor trucks preparatory to the afternoon dash to the station with the car of peaches. The gasoline tractors which did the field work were standing in their end of the garage, wiped clean and ready to resume cultivation on the morrow.

A visit to the dairy followed. It was built of concrete, piped for hot and cold water and steam for sterilizing utensils and equipped with cream separators, churns and butter workers, all power driven of course. The temperature was

kept just right, as testified by a thermometer, by an abundance of ice made on the premises. The place was carefully screened and so clean you couldn't find a speck of dirt with a search warrant.

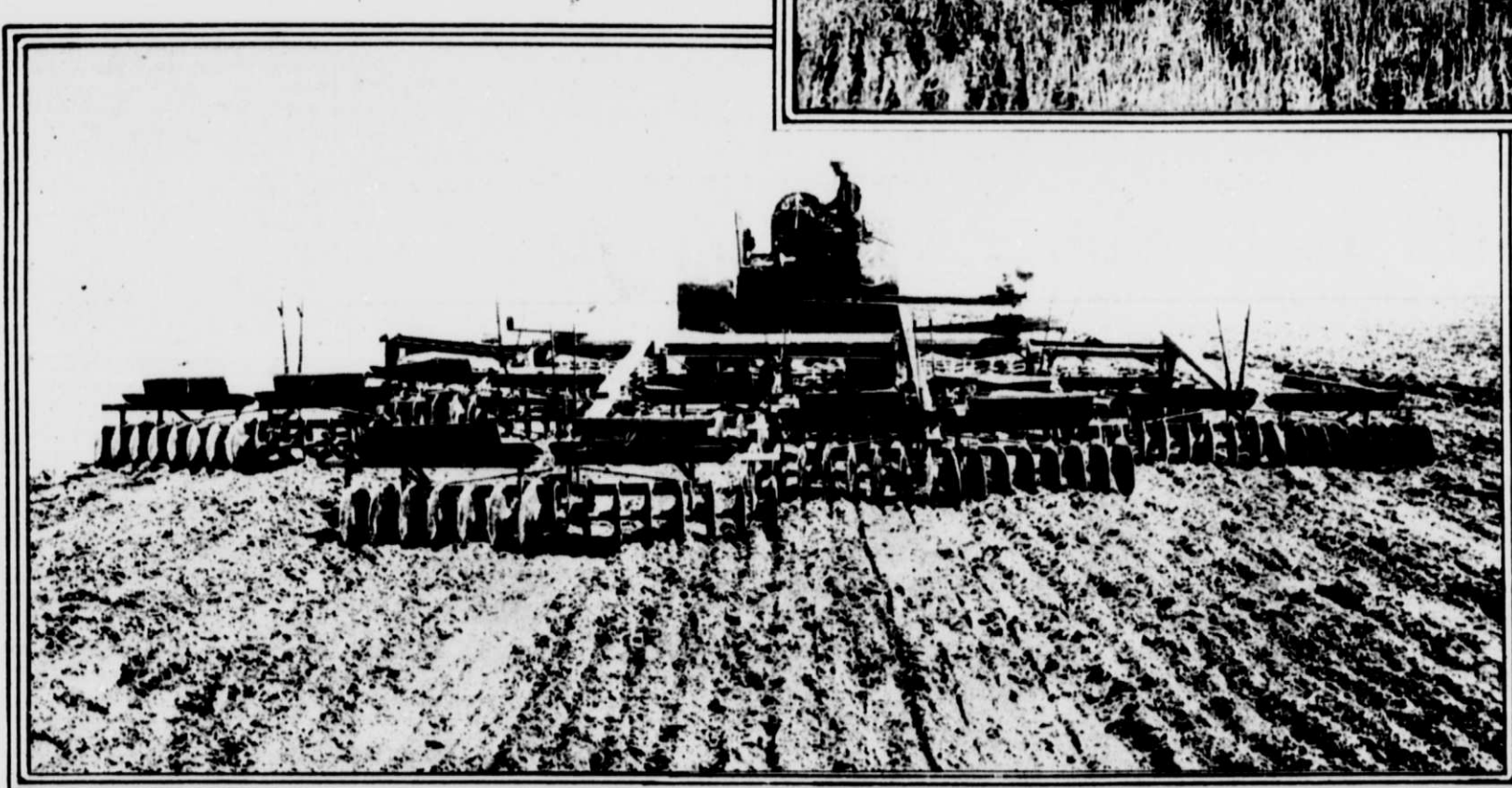
Farmer Hay concluded not to go to the stable that morning. In the first place there wasn't any stable. Since the farm work was done exclusively by gasoline tractors and all the hauling by motor trucks and all the passenger transportation by automobiles, and since everything else around the place, from running the washing and sewing machines, meat chopper, potato parer and coffee mill in the kitchen, to pumping water, making ice and furnishing gasoline light was done by stationary gasoline motors, there was no need for stables because there were no horses.

That explains why Farmer Hay was able to put on all these frills instead of drinking eighteen hours a day wearing a hickory shirt badly in need of soap and overalls held up by one suspender, as his father had done before him. The

Ploughing a strip 14 feet wide at one trip across the field.

vote and all the other collective votes numerous enough to be worthy of consideration, you did not observe any farmers hanging over the gallery rail wincing death signs down at trembling Representatives, did you? Of course you didn't. The American farmer was at home, so busy making money that he didn't know whether Congress was for him or against him. And what's more, he didn't care.

While the law gives, not without apprehensions regarding the condition of their fences back home, dutifully toil and mold to provide frankable copy for the Congressional Record the gasoline tractor is blotting out the vast cattle



One man tractor pulling a battery of disk harrows at rate of 120 acres a day.

senior Hay farmed with horses and borrowed money to pay his taxes and stayed at home all his dreary life. His son farmed with gasoline motors and tractors and lent money at the best interest he could get and sent his children to college and spent part of each year abroad.

To avert the suspicion of attempted deception, likewise to avoid undue strain on invention, the confession may as well be made right here that the Farmer Timothy Hay we have with us on this auspicious occasion is not an individual portrait, nor yet a fancy sketch, but a composite photograph true to type of a great many thousands of farmers in these United States.

So, without going into further details about how Farmer Hay went in his motor runabout to the orchard to see how the peach gathering was progressing, or how he afterward took his wife and daughters to Dismalburg in the family touring car, or how he mourned and would not be comforted because he had to choose between accepting only 4½ per cent on the proposed loan or letting some of his eager neighbors have the chance, the conversation will now be held gracefully up to the subject of gasoline farming.

For an opener the assertion is here made that the introduction of mechanical power on the farm on a large scale has begun the most tremendous economic revolution in the world's history. This is said because, in the first place, it sounds impressive. Incidentally it is true, as shall be proved if I have to quote statistics till I stagger humanity.

City folk are proverbially unsophisticated regarding affairs of the farm. For that matter no one realizes what a tremendous transformation is now taking place in farming, unless it is the manufacturers of gasoline tractors and motors, and they are too happy to talk about it.

After the automobile had demonstrated its practicability a few years ago some far seeing men realized that the true future for the internal combustion engine lay in supplanting the horse on the farm. In its development the tractor motor followed closely that of the automobile motor, a single cylinder motor being first used, then two and now four cylinders. After years of experimenting the patience of the builders was rewarded by the production of a light, high wheeled engine which uses only 8 per cent of its power in propelling itself, which can travel over soft or wet ground better than horses, and which has developed amazing versatility. It ploughs, harrows and drills at one operation, thus enabling the farmer to get his grain into the ground while the

soil is in ideal condition; it runs the harvester and the thresher and hauls the grain to market; it cultivates corn, runs the corn harvester, the husker and shredder and the sheller; it picks cotton; it cuts hay, rakes it, loads it on the wagon, hauls it to the barn and pitches it into the mow or bales it; sprays the fruit trees clear to the top, which is more than can be done by hand, thus materially increasing the returns from the orchard; it digs ditches, grades roads, crushes rock and hauls and distributes it.

A Connecticut genius has invented a special form of tractor for cultivators only; another has invented a special form to run beneath branches in orchards, while the "caterpillar" tractor, which lays down two steel tracks, each thirty inches wide, to run upon, can work in rice fields and swamps where horses cannot go. In fact, the gasoline tractor stops at nothing.

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digger and hauls it to market by motor truck or tractor. Thus the crop that once demanded the most onerous drudgery of all has become one of the easiest to raise.

After planting and cultivating his corn crop by power driven machinery the farmer need no longer hurry out at dawn on frosty November mornings to gather it an ear at a time. Power driven machines cut, bind and shock the entire crop, thus saving the fodder that once was wasted. Then with a hand and alone, can husk as much corn in ten hours as five expert huskers could gather in the old way from dawn to dark.

In addition the husker automatically shreds the fodder and delivers it in the barn or silo and stows the corn in the crib or in a wagon box to go to market. A shift of the belt to another machine will grind the corn, cob and all, thus enabling the full food value to be saved.

A tractor drawing a cotton picking machine operated by one man and a boy has picked cotton on a Texas farm at the rate of 5,400 pounds a day.

The small farmer of a former generation who had a little grain to thresh had to spend a good part of the fall exchanging work with his neighbors to obtain help enough for the job. Now the thresher is hauled into the stack yard by a tractor which requires but one man to wait upon it. It is then ready, after throwing on a belt, to do the threshing, and it requires so little attention that the operator also runs the separator, thus saving one man's wages. The thresher has a self-feeder and automatic band cutter, which dispenses with the services of four men; a self-stacker, which does away with three more men's services, and an automatic weigher and bagger or loader to deliver grain in bulk in a wagon box, which does the work of two more men.

At night the farmer has but to shift

ery is to provide the small farmer with a one man outfit.

Some tractors have automatic steering devices so that one man can run the tractor and the gang of ploughs it pulls. One Minnesota boy operating a 30 horse-power tractor and ploughs single handed ploughed fifty-seven acres in a day. Another manufacturer accomplishes the same end by the use of a power lift and automatic drop for the ploughs. A boy with this outfit can do more work in a day than four or five men with teams, and do it better.

Having prepared the ground with the aid of his tractor the up to date farmer runs his seed potatoes through a power driven cutter, plants them with a power drawn planter, cultivates them by power, feeds the potato bugs Paris green from a power driven sprayer, harvests the crop with a power drawn

Baker tractor driven with lines.

the belt to a vacuum pump in the cow barn to have his tireless tractor milk two cows at once at the rate of twenty an hour. In short, the tractor not only gives the farmer command of the power of thirty or forty horses and the endurance of a hundred, but, with the machinery it drives, replaces three or four men and a hired girl to boot.

If the manufacturers carry out their promise to put the gasoline tractor within the reach of every owner of a fifty acre farm they have a pretty big job ahead, for it is estimated that the American farmer needs an additional \$2,000,000,000 worth of machinery and \$3,000,000,000 worth of motive power to drive it. This golden prize has roused the cupidity of the electric light and power companies.

The National Electric Light Association set a committee at work to find

threshers, wood saws and so on, alone, 10 per cent. The tractor is built to do all these things and does them, but the progressive farmer finds that it pays to have one or more portable motors to pump water for house and barn and other chores so that the tractor may be kept in the field or on the road. A small motor will furnish electric light for house and barn cheaper than kerosene, while the low voltage used eliminates the fire risk.

A small motor is more help to the farmer's wife than a hired girl. It will run the vacuum cleaner, bread mixer and sewing machine, rock the laundry, shoot the flies from the table and right fans on hot days. The cost of these small motors is relatively slight when their wide range of usefulness is taken into consideration. Motors of one and a half horse-power may be had from \$35 up, while one of four horse-power can be had for \$100.

Because they do so much to prolong the lives of hard worked farmers, these little motors have been nicknamed life savers. In pumping water above the gasoline motor performs an invaluable service. The Department of Agriculture, cooperating with the State Board of Health, examined seventy-nine wells on Minnesota farms. Fifty-nine were found to be polluted, while twenty-three farms had typhoid fever records. With a good power pump the farmer can get far enough away from buildings to make sure of a pure water supply. On wash days his wife need only turn a tap to get water instead of carrying tubful after tubful from cistern or well, frequently in inclement weather at the risk of pneumonia.

The possibilities involved in an adequate power supply for all farms stagger comprehension. The avoidance of waste thus rendered possible runs into billions. The waste of the corn crop alone amounts to more than a billion dollars. It is estimated that 60 per cent of the food value of a ripe corn plant is in the kernel and 40 per cent, in the stalk. One of the reasons given for the high price of beef is the disappearance of the ranges and the consequent scarcity of feed. Adequate power would enable the farmers to shred and store in barn or silo all the corn plant which would add to their resources more than \$1,000,000,000 worth of feed.

In another way the corn is wasted. Government experts found that to feed hogs whole corn required 5.12 pounds of grain for each pound increase in weight, while only 3.9 pounds of corn ground with the cob was needed to produce a gain of one pound. Grinding the portion of the corn crop used for stock fattening purposes, which would be feasible if adequate power were available, would add \$250,000,000 more to the value of the corn crop.

Twenty-five million horses and mules are now employed on the farms. Four-fifths of this number replaced by mechanical power the 100,000,000 acres required to provide forage for them would be released to be devoted to food purposes. This is more than a fifth of the total area under cultivation. If the product of this vast new acreage came up to the present average, the farmer's income would be increased by still another \$1,000,000,000.

Taking them by and large the possibilities of gasoline farming are fascinating.

Bruin's Ways

A BEAR never gets tired," said a Pike county man full of the subject that has made that corner of the Keystone State somewhat famous. "No one ever saw a tired bear. A bear will travel a hundred miles and the roughest kind of ground, and through swamps and thickets without ever thinking of resting if hard pressed, and be just as fresh for another hundred miles as he was when he started on the first."

"If he has time he will sit down once in a while to take a bite of something to eat, as the hunter can see if he is following Bruin in a tracking snow. And the curious custom the bear has of turning off his course when traveling, whether the dogs and hunters are after him or not, and going to certain trees on one side or the other of the course where he bites viciously at the trunk until the splinters fly, are the only digressions he makes from his route."

"The habit of biting trees in this way while travelling has never been satisfactorily explained. The trees may be two rods or they may be half a mile or more off from the bear's line of travel, but no bear passing that way ever fails to sheer off to them and bite off a piece unless he is too closely pressed by the dogs or hunters. Any old woodsman can take you to trees of this kind and almost bitten in two by bears and have stopped and chewed them in accordance to the custom."

"The bears must have some reason for purpose, of course, in picking out trees to be visited and bitten, but what it can be no one knows, any more than why bears never fail on coming to the edge of their winter sleeping places in spring to rise full length against some particular tree, reach up as far as they can along the trunk and scratch a mark in the bark with their claws."

"Native of the bear country say that Bruin does this to see whether he is grown any since he hauled up in the winter, while others declare it is a challenge to other bears as a test of their high rising powers in competition. Both are neither is right."